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ABSTRACT

The document presents a collection of articles about heroin. Article 1 provides general information on heroin identification, drug dependence, effects of abuse, cost, source of supply, and penalties for illegal heroin use. Article 2 gives statistical information on heroin-related deaths in the District of Columbia between 1971 and 1982. Article 3 discusses the controversial methadone treatment for heroin addiction. In article 4, heroin is endorsed as a treatment for cancer pain. Article 5 reports on the dangers of using China White (a synthetic drug that is 80 times more powerful than heroin), and article 6 reports on the use of drugs in combination (speedballing). The final article focuses on drug adulteration as a principal cause of physical injury and deaths associated with heroin use. The document concludes with an annotated bibliography of over 20 related books and articles. (LH)

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Heroin

SO 015 153

HeroiN

LAST STOP ON THE MAINLINE.

IDENTIFICATION

Heroin, the most abused narcotic (opiate) drug, is a semisynthetic derivative of morphine, which comes from opium. In its pure form, heroin is a white, off-white or light-brown crystalline powder, usually fine in texture. It is cut or diluted with milk sugar. The average "street dose" contains from 2% to 5% heroin. Its manufacture and sale are prohibited in the United States. Its illegal use is to obtain a euphoric effect. Heroin, like other opiates, depresses the central nervous system (brain and spinal column), produces drowsiness, sleep, and relieves pain. However, it is more highly addictive than morphine and severe withdrawal pains result if regular injections are discontinued.

Heroin is sometimes sniffed, but this produces burns and sores around the nostrils and the usual method is to inject the solution into the bloodstream through a vein. The "outfit" used by the addict for injecting heroin ("taking a fix") consists of some matches, a teaspoon, a medicine dropper, a hypodermic needle, a piece of cotton, and a belt or length of rag for a tourniquet. The heroin is dissolved with a few drops of water, heated slightly; the vein is punctured, and the solution, filtered through cotton, is injected.

DRUG DEPENDENCE

The characteristics of heroin dependence are classified with the characteristics of morphine dependence, described by the World Health Organization's Expert Committee as follows: (1) an overpowering desire or need to continue taking the drug, and to obtain it by any means; the need can be satisfied by the drug taken initially or by another drug with morphine-like properties; (2) a tendency to increase the dosage because of the development of tolerance; (3) a psychic dependence on the effects of the drug; and (4) a physical dependence on the effects of the drug, "requiring its presence for maintanance of homeostasis and resulting in a definite, characteristic, and self-limited abstinence syndrome when the drug is withdrawn."

Morphine causes total dependence--the development of compulsion, tolerance, psychic dependence, and physical dependence. Heroin dependence develops more rapidly and is more compelling than morphine dependence.

EFFECTS OF ABUSE

Heroin goes to work immediately in the body, directly depressing the nervous system and indirectly reducing all physiological activities of the body. Circulation and respiration are slowed down, blood pressure is lowered, and the metabolic rate is reduced. The production of body fluids is retarded, so serious dehydration, digestive disturbance, and chronic constipation frequently result. The heroin abuser loses his appetite and suffers extreme weight loss, and in general, he neglects his health. He is unable to resist infection, in addition to being exposed to hepatitis, yellow jaundice and other diseases as a result of sharing unsterile "outfits."

The danger of an overdose of heroin is always present. In major cities, there are many deaths due to toxic poisoning from impurities or overdoses. It is important to remember that drug effects vary, depending on the particular chemical structure of the drug, dosage, type of administration, the personality and expectations of the person, and many other variables. When deprived of heroin or other opiates upon which the addict has become totally dependent, withdrawal symptoms set in. This will resemble a severe cold or flu symptoms, including running nose, watery eyes, sleepiness, later restlessness, sweating, muscle pains, then nausea and diarrhea. Within a 48-hour period, loss of appetite, high fever, increased respiration and blood pressure occur. It may be weeks or months before physiological stability is achieved.

COST

A capsule of heroin costs $2.50 or $3.00; 1/2 gram, $10; Gram, $20; 1/4 ounce ("Quarter"), $60; 1/2 ounce ("Half Piece"), $120; 1 ounce ("Piece") $300.

SOURCE OF SUPPLY

Heroin is smuggled into the United States from many countries. Heroin coming into California is principally of Mexican origin, but other sources are the Orient and Near East. Opium, from which heroin is manufactured, is prepared from the juice of the unripe seed pod of a species of poppy, Papaver somniferum, which thrives in hot, dry climates. It is grown in such countries as India, Turkey, China, Thailand, Egypt, and Mexico. Smuggling is done by major crime syndicates which use all methods of transporation to bring in heroin to the United States. It is a lucrative business as the mark-up from the source of supply to the street addicts is often in the thousands of dollars. Individuals and small groups cross the Mexican border to obtain drug supplies. The border situation is difficult to control, for there are numerous and devious ways to smuggle drugs.

PENALTIES

The Harrison Narcotic Act of 1914 is a tax measure designed

to control the importation, manufacture, production, preparation, purchase, sale, distribution, or gift of opium and its derivatives. The Narcotic Drugs Import and Export Act of 1922 limits the importation of crude opium and coca leaves to amounts deemed necessary for medical and scientific needs and specifically prohibits the importation of opium for smoking or for the manufacture of heroin. The Opium Poppy Control Act of 1942 prohibits the production of the opium in the United States except under license and provides penalties for persons who grow the poppy illegally. The Narcotic Control Act of 1956 provides a sentence of not less than five nor more than 20 years, with an optional fine up to $20,000 for the unlawful sale of narcotics or marihuana between adults for the first offense. No probation, suspension, or parole is allowed. The act provides for imprisonment from ten years to life, an optional fine up to $20,000, or death penalty if the jury so directs, for an adult who in any way furnished heroin to a minor. These are federal laws.

State laws are listed in the Health and Safety Code (Div. 10). It is a felony offense to possess heroin; possess heroin with intent to sell; sell narcotics to juveniles or adults; or offer to sell narcotics or deliver substance in lieu of narcotics. These penalties are included in 11500, 11500.5, 11501, 11502, and 11503 of the H & S Code.

It is misdemeanor to do the following: Illegally use or be under the influence of narcotics; illegally possess narcotic paraphernalia; unlawfully be in the presence of or visit where narcotics are used. The Penal Code lists as a felony offense bringing narcotics into the County Jail, or possessing narcotics in County Jail. The Department of Motor Vehicles will not issue or renew a license to a person who is habitually using drugs or is addicted to narcotics. When the use of a motor vehicle is involved in the commission of any narcotic offense defined in Division 10 of the Health and Safety Code, starting at Section 11000, a Court may revoke a driver's license upon conviction.

The Welfare and Institutions Code 3100 W.I.C. provides for the voluntary commitment for treatment of narcotic addiction. 3100.6 W.I.C. provides for the involuntary commitment of narcotic addicts by health officer or a peace officer. The California Rehabilitation Center at Corona provides a rehabilitation program for California addicts.

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COUNTY OF LOS ANGELES DEPARTMENT OF COMMUNITY SERVICES NARCOTICS INFORMATION SERVICE

CENTERS FOR DISEASE CONTROL

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MMWR

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Epidemiologic Notes and Reports

Heroin-Related Deaths — District of Columbia, 1980-1982

In the period January 1980-December 1982, 266 deaths occurred in the District of Columbia because of intravenous heroin use (Figure 1).* These deaths represented a substantial increase in numbers beginning in the second quarter of 1979. The median age of all decedents for this 2-year period was 30 years; 93% were black, and 82% were male. These deaths constituted 96% of all deaths due to abuse of narcotics in the District of Columbia during the study period; they clustered significantly in the spring and summer, on Friday and Saturday, and from 6 p.m. through 12 midnight. The median age at which the decedents in this group first used heroin was 19. Analyses of heroin preparations sold on the street indicated that quinine was the only other pharmacologically active substance consistently present in packages of heroin associated with these heroin-related deaths (HRDs).

A comparison was made of autopsy data for persons whose deaths were classified as HRDs and data for a control group consisting of persons who died of natural or traumatic causes (including homicide and suicide) in the same time period and had measurable concentrations of morphine in their blood at autopsy.† Seventy-three percent of persons whose deaths were classified as HRDs and 32% of controls had measurable concentrations of ethanol in blood; 50% of the former and 15% of the latter had concentrations greater than 100 mg/dl. The median concentration of morphine in blood for HRDs at autopsy was 0.03 mg/dl, compared with 0.01 for controls.

Analyses of risk factors during the study period (Table 1) indicated that persons with HRDs were 22 times as likely to have blood ethanol levels greater than 100 mg/dl than levels equal to or less than 100 mg/dl and 15 times as likely to have blood morphine concentrations equal to or greater than 0.02 mg/dl than to have levels of less than 0.02 mg/dl. Analysis of the case-control data showed that the presence of a single, recent needle-injection site or a single track area was significantly associated with a higher risk of HRD than were multiple sites or track areas ($p < 0.05$).

The parameters of deaths among HRDs by quarter year, weight of heroin and quinine in street packages, and price of heroin were used in a multiple linear regression model for an interval that included both endemic and epidemic periods (1976-1982). Analysis indicated a positive association between HRDs and the quarterly average amount of heroin and quinine in street packages, as well as between HRDs and the quarterly average concentration of heroin (percentage dry weight); the same analysis indicated an inverse association between HRDs and the price (dollars/milligram of pure heroin) of heroin.

The above positive association between quinine and HRDs is also supported by pharmacologic data. Doses of quinine estimated from concentrations in street preparations ranged from

*Heroin-related deaths are, by definition, associated with the use of no narcotics other than heroin.
†Morphine is a metabolite of heroin and appears in the blood of all persons who have used heroin.

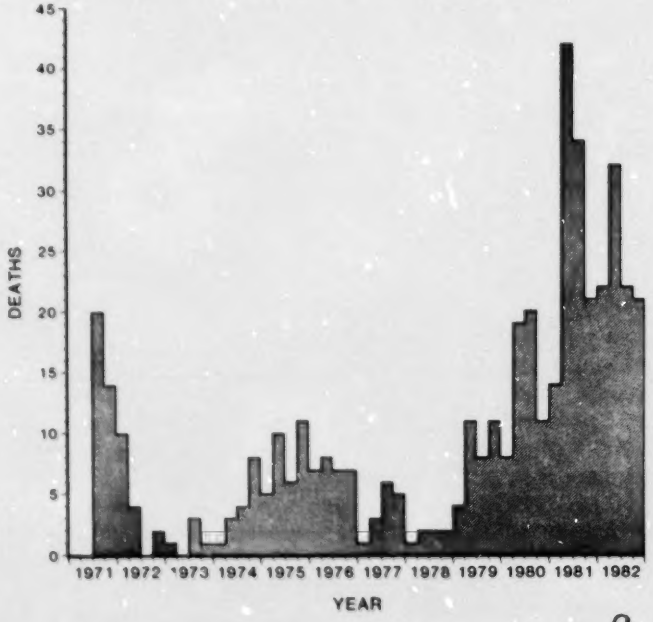
Heroin-Related Deaths -- Continued

98 mg to 314 mg. For a 10-second injection, dose rates would range between 10 mg/sec and 131 mg/sec, 59-182 times the currently recommended maximum therapeutic dose rate for quinine dihydrochloride (*1*).

Reported by JL Luke, MD, Chief Medical Examiner, Office of the Chief Medical Examiner, ME Levy, MD, Public Health Svcs Administrator, Office of the Commissioner of Public Health, District of Columbia; Morals Div, Metropolitan Police Dept, District of Columbia; Div of Epidemiology and Statistical Analysis, National Institute on Drug Abuse; Office of Intelligence, Drug Enforcement Administration; Chronic Diseases Div, Center for Environmental Health, CDC.

Editorial Note Epidemiologic features of HRD in previous epidemics have been described (*2-4*). Investigators have attributed these deaths to the high concentration of heroin in street preparations and to a loss of tolerance to heroin. Relatively little is known about why epidemics of HRDs occur, whether particular groups are at high risk for a fatal overdose at such times, or how demographic and toxicologic variables differ during epidemics from those at other times. The 1981 population-based HRD mortality rate of 17.4/100,000 population for the District of Columbia is the highest ever reported in the medical literature. Results from the case-control study described above and the magnitude of morphine concentrations in blood indicate that the pharmacologic effects of heroin played a major role in this epidemic (i.e., on the basis that minimum lethal blood morphine concentration may range from 0.02-0.04 mg/dl and because heroin-related decedents in this study were 15 times more likely than controls to have blood morphine concentrations of 0.02 mg/dl or greater). In addition, analysis of case-control data showed elevated concentrations of morphine in urine and bile significantly more often ($p < 0.05$) among controls than among members of the case group, indicating that the case group used heroin less chronically than did the controls (*6-8*). Likewise, the

FIGURE 1. Heroin-related deaths, District of Columbia, 1971-1982



Heroin-Related Deaths – Continued

case-control data clearly establish that the combination of ethanol and heroin elevate the risk for a fatal overdose—a point that has not been emphasized in past analyses of these epidemics (*3,5*). The acute effects of blood ethanol appear more prominent than the chronic effects, since liver pathology does not significantly increase the risk of HRD after the confounding influence of blood ethanol is removed.

The data from the District of Columbia study also suggest that the lack of tolerance to heroin is a risk factor for death from overdose, but that this lack may be due to sporadic use of the drug in combination with ethanol rather than to an addict's resumption of frequent heroin use after a period of abstinence. These data differ from earlier study results that suggest that HRD epidemics are related to the fluctuating strength of heroin sold on the street. The association between quinine and HRDs also conflicts with past reports and merits further consideration (*2,8,9*).

Although the mechanisms for the epidemiologically identified risk factors have not been firmly established, the data from the District of Columbia study support the adoption of public health education measures aimed at reducing heroin-related mortality. The following recommendations should be considered for use by public health care providers:

1) Heroin users should be continually reminded of the well-documented elevation in the risk for death associated with using heroin in any context, using heroin after a period of postaddiction abstinence, and using heroin for recreational (nonaddictive) purposes.

2) The risk of combining heroin use with ethanol ingestion should be made clear to all heroin users. Addiction treatment programs should also address the problem of substituting addiction to ethanol for addiction to heroin, methadone, or other drugs. Heroin addicts under treatment who have problems with ethanol abuse should be treated for both drug problems.

TABLE 1. Effects of blood ethanol, blood morphine, and liver pathology on heroin-related deaths – Washington, D.C., January 1980-December 1982

Variable Adjusted for	Odds ratio*	95% confidence interval†
Blood ethanol§	21.7¶	5.4-187.3
Blood morphine	36.0	8.2-335.0
Gross FM**	16.5	4.1-145.4
FM by microscopy	17.5	4.1-160.1
Blood morphine††	15.2¶	6.6-37.4
Blood ethanol	23.3	9.4-64.0
Gross FM	14.5	6.3-37.3
FM by microscopy	12.4	5.2-32.4
Gross FM	2.8¶	1.4-5.9
Blood ethanol	2.1	0.9-5.7
FM by microscopy	1.9¶	0.8-4.9

*Controls with no measurable blood morphine are excluded from analysis; conditional maximum likelihood estimate of adjusted odds ratio.

†Exact conditional maximum likelihood estimate of confidence interval.

§Blood ethanol > 100 mg/dl compared with ≤ 100 mg/dl.

¶Crude odds ratio, not adjusted for another variable.

**Fatty metamorphosis.

††Blood morphine ≥ 0.02 mg/dl compared with < 0.02 mg/dl.

Heroin-Related Deaths – Continued

3) Measures should be considered to decrease the ready availability of quinine. Heroin users should also be apprised of the potential risks involved when quinine is used as a diluent in preparations of heroin.

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TABLE I. Summary—cases specified notifiable diseases, United States

Disease	25th Week Ending			Cumulative, 25th Week Ending		
	June 25, 1983	June 26, 1982	Median 1978-1982	June 25, 1983	June 26, 1982	Median 1978-1982
Aseptic meningitis	164	162	125	2,206	2,154	1,665
Encephalitis: Primary (arthropod-borne & unspec.)	24	28	19	411	447	315
Post-infectious	2	5	4	38	47	101
Gonorrhea: Civilian	15,168	19,268	19,358	417,119	449,368	452,235
Military	349	379	499	11,384	13,219	13,050
Hepatitis: Type A	321	369	578	10,685	10,599	13,023
Type B	430	498	364	10,639	10,075	8,037
Non A, Non B	63	44	N	1,585	1,082	N
Unspecified	182	170	181	3,793	4,062	4,797
Legionellosis	9	6	N	354	217	N
Leprosy	6	1	1	127	90	82
Malaria	13	14	26	323	436	436
Measles: Total	66	57	317	1,022	875	10,288
Indigenous	65	N	N	850	N	N
Imported*	1	N	N	172	N	N
Meningococcal infections: Total	49	38	50	1,634	1,722	1,567
Civilian	49	37	49	1,619	1,714	1,556
Military	-	1	1	15	8	11
Mumps	46	112	158	2,028	3,813	6,389
Pertussis	45	26	26	844	526	529
Rubella (German measles)	17	45	82	656	1,603	2,761
Syphilis (Primary & Secondary): Civilian	579	688	567	15,303	15,862	12,387
Military	10	8	5	217	195	151
Toxic-shock syndrome	10	N	N	211	N	N
Tuberculosis	490	485	613	10,855	12,071	12,698
Tularemia	12	13	7	112	83	82
Typhoid fever	9	7	8	163	182	210
Typhus fever, tick-borne (RMSF)	95	44	48	339	334	325
Rabies, animal	132	162	136	3,061	3,021	3,021

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1983		Cum 1983
Anthrax	-	Plague	15
Botulism: Foodborne	10	Poliomyelitis: Total	1
Infant (Calif. 2, Hawaii 1)	34	Paralytic	1
Other	-	Psittacosis (Colo. 2)	57
Brucellosis (Kans. 1, Va. 1, Fla. 2)	76	Rabies, human	2
Cholera	-	Tetanus (N.C. 1)	32
Congenital rubella syndrome (Upstate N.Y. 2)	13	Trichinosis	18
Diphtheria	-	Typhus fever, flea-borne (endemic, murine) (Ga. 1, Tex. 1; Hawaii 3)	19
Leptospirosis (Fla. 1, Hawaii 2)	20		

*One of the 66 reported cases for this week was imported from a foreign country or can be directly traceable to a known international imported case within two generations.

STREET PHARMACOLOGIST

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A SERVICE OF UP FRONT, INC. Your Independent Drug Information Center

Latest National Findings

Methadone Treatment Alive And Well

By James E. Dubé

Dorynne Czechowicz, M.D., travelled to Florida to bring the word: methadone treatment is safe and it works. Dr. Czechowicz is the Assistant Director of Medical and Clinical Affairs at the National Institute on Drug Abuse (NIDA). Her presentation was the product of the many NIDA-sponsored literature reviews and research projects.

According to Dr. Czechowicz, methadone treatment is still controversial. Issues like methadone maintenance versus abstinence, high versus low doses, self regulated "take homes" and urine screening are still bubbling. However, methadone has been around for more than 18 years and in that time much information has been accumulated.

Medical and scientific reviews of this information support the safety of methadone when prescribed by physicians knowledgeable in the treatment of narcotic addiction. In spite of street rumors and old wives tales, no significant adverse effects have ever been fully substantiated. Genetic, reproductive and teratogenic studies show no real evidence that methadone is teratogenic. The final word, according to NIDA, is that even long-term methadone treatment is not physically harmful.

From here, Dr. Czechowicz moved to the most frequently asked question about any and all modes of drug treatment: Does it work? Again, according to NIDA, the answer is yes. Methadone treatment not only works, it works often enough to make it worth doing. NIDA's reasoning is based on the widely held view that the longer a client stays in treatment, the better the chances for success. (Even the anti-methadone camp of drug treatment holds the idea that those clients who "split" quickly probably get little out of treatment.)

Years of accumulated and analyzed data demonstrate that the methadone modality retains the greatest proportion of admissions for the longest period of time (between 65 and 90 per cent of methadone patients remain in treatment for at least one year). Those enrolled in methadone treatment show a decrease in criminal activity and illicit narcotic drug use. Interestingly enough, there is a large body of evidence that consistently shows higher dose clients stay longer and use illicit drugs less. As for other treatment variables like patient attitude, relationship with program staff, attendance, psychotherapy, educational programs, vocational counseling or legal services, the jury is still out. More research is needed to show clearly what besides methadone makes for optimal narcotic rehabilitation treatment.

Dr. Czechowicz also pointed out that methadone works better with some patients than others. Older patients do better then younger; non-whites do better than whites and those who are stably coupled do better than those who are single. On the negative side, those with "heavy" criminal records, severe psychopathology, poor work records and polydrug use stay in treatment for shorter periods and do less well. It is noteworthy that education, psychiatric diagnosis or even the duration and frequency of narcotic use do not seem to have any predictive value. The main provable point seems to be that older patients with less multiple drug use, greater work skills and stable lives are the most successful methadone patients. Young, multiple drug abusers with poor employment histories seem to do better in therapeutic communities.

Surprisingly, there is not nearly enough consistent data on potential measurable predictors like anxiety, depression, thought disorders, suicidal thoughts or even inability to control violent behavior. Dr. Czechowicz admitted this while pointing out that NIDA is committed to further research on methadone treatment and the variables that influence it. She went on to describe NIDA's other research push, that is, investigation of the efficacy of various psychosocial interventions such as family therapy, psychodynamic psychotherapies, behavior therapies and biofeedback.

NIDA is also interested in the treatment environment. Preliminary findings indicate that staff training and background do not greatly affect treatment outcome. However, again Dr. Czechowicz was quick to point out the need for more research in this area. NIDA is also still researching the need for after care services and vocational services for the methadone patient.

Up to now, only two studies have dealt with the nature of treatment and the types of clients who are enrolled. The Drug Abuse Reporting Study (DARP) and the Treatment Outcome Prospective Study (TOPS) both provided data on large national samples of drug treatment clients. These reports indicate that in addition to heroin and/or other opioid use, clients now are using multiple substances. This suggests that current programs will face a more difficult task than early clinics did. Still, client reports showed important improvements such

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Methadone Treatment Alive And Well

Continued from page 1

as less use of primary drug, fewer drug related problems, less depression, a reduction in commission of serious crimes and an increase in employment.

Although methadone is widely accepted as a detoxification agent, there is still much disagreement among treatment facilities as to short versus long detoxification programs and the dosage that is best. There is also considerable interest in detoxification or maintenance drugs that alleviate either withdrawal symptoms or depression.

On the whole, NIDA now recommends four to six months as the minimum period for detoxification. Evaluations of 21-day outpatient detoxification programs reveal that they are insufficient to alter addictive behavior. The few patients who do manage to complete 21-day withdrawal schedules usually do so by receiving referrals to other community agencies. In other words, the 21 days are merely the entry phase of their treatment. There is even a school of thinking that is currently investigating the idea of permanent methadone maintenance for individuals designated as amenable to this type of treatment.

The use of clonidine as an alpha-adrenergic agonist is known and approved as useful in the treatment of hypertension. Although it has not yet been approved for use in the treatment of narcotic addiction, it has been studied as a therapeutic tool to lessen withdrawal symptoms during opioid detoxification (this includes methadone). The exact mechanism of action is not clearly understood; however, as the withdrawal symptoms become more serious, larger doses of clonidine are required. Research experiences have demonstrated that clonidine can effectively ameliorate some withdrawal symptoms but only while exposing patients to the risk of side effects such as sedation, insomnia and hypotension.

Several studies have shown that among methadone patients the most frequently diagnosed psychiatric disorders were major depression and alcoholism. Although few refute these findings, it is not clear what to do about them. There are those who advocate the use of tricyclic antidepressants but their view is countered by opposing studies that show most methadone clients undergo substantial alleviation of depression symptoms during the first six months without additional pharmacotherapy. There are no medical contraindications for the use of Antabuse and methadone in tandem. However, attempts to pair these have failed due to patient refusal to take the Antabuse.

Regarding LAAM (a long-acting methadone requiring administration only once every two to three days), there is considerable controversy due to studies that suggest its carcinogenicity. NIDA held a technical review that concluded that there is no sound evidence that this drug is carcinogenic; as a result, new clients may now be placed on LAAM. Meanwhile, the FDA is currently reviewing all LAAM data.

Without doubt, methadone treatment will continue to improve. There are many groups interested in studying the psychological and neurochemical idiosyncracies of narcotic addiction – what has worked, what is currently working and what potentially could be of service will all be studied further.

The preceding article was developed from information gathered at the Statewide Symposium on Narcotic Treatment held in Miami, Florida. This article is an attempt to summarize Dr. Czechowicz's views on the subject of methadone treatment.

A note of thanks to Dr. Czechowicz for allowing Up Front to tape her presentations and photocopy her lecture notes and for answering questions between presentations. A second note of thanks is owed to the Florida Alcohol and Drug Abuse Association and the local programs who put on this showcase conference.

Self-Help for Drug Use

Continued from page 3

would not be long before I would be looking at life again through a vodka bottle. Realising this, I thought about the problem and decided I could only treat it one way. If a bad tooth made me ill I would go and have it out. I felt that Tim was my 'bad tooth' so I had to have the courage to remove him from my life as best I could. It is not a fairy tale ending – but it is one of the first major decisions I have made in 12 years without taking a pill to get out of making it. I did this for the sake of my sanity.

Techniques similar to that used by "Marilyn" have been used to help others deal with drug-related problems. Cigarette smoking, caffeine, alcohol, marijuana and cocaine use all lend themselves to the method. Although it is not suitable for all drug users or abusers, particularly those who need intensive counselling or an in-patient treatment situation, the notebook method can be used quite successfully by a self-motivated individual who wants to deal with an admitted problem. It may be especially helpful to persons who, for economic or personal reasons, prefer not to seek professional or group counselling for their drug-related habits.

All that is needed to begin the notebook technique is a pencil or pen and a small notebook to record drug use patterns. Each entry should be accompanied by the date, time, place, type of activity or circumstances involved and, most importantly, the reason for use.

After the first week of record-keeping, review the notebook to see if there is any way to actively substitute non-drug alternatives for substance use. Integrate the alternatives into your daily routine.

At the end of two weeks, when good alternatives have been identified and proven acceptable, start using them regularly.

At the three week point you should be gaining control of the undesirable habit. If not, it may be good to consider the "buddy method," using a friend or family member who understands what you are trying to accomplish. Should you continue to have problems professional counselling may be advisable.

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Heroin Endorsed As Treatment for Cancer Pain

by Stephen Newman

There are two images to consider here.

The first takes you to a rain-swept inner city street corner at midnight. The sidewalks are apparently empty and the arrival of each passing car is announced by the hiss of tires passing over the wet streets. A second look, however, identifies a group of five figures huddled against a building. Their shoulders are hunched against the wind and rain, their expressions blank and their arms, although covered with shirts and jackets, festered with needle marks. A sixth figure approaches and joins the group. Money and packets of white powder change hands. Soon, all six figures have disappeared into the night.

Heroin, a Schedule I drug having, by legal definition, a high potential for abuse and no accepted medical use, has just been purchased in violation of the 1970 Controlled Substances Act.

The second image takes you to the brightly lit corridors of a hospital's cancer ward. Pain is the constant companion of the patients in this ward. Intense, sometimes unbearable, pain. Morphine, like heroin a derivative of the opium poppy, is available and is frequently prescribed in an effort to provide some measure of comfort.

Heroin is not available here. That is not surprising. Physicians cannot legally prescribe heroin for *anything*. And that, at the moment, is apparently fine with most Americans because when they think of heroin they picture the rainy street corner and they don't want *anyone* talking about legal heroin. You'd have to be crazy.

But when Judith Quattlebaum thinks of heroin her mind is filled with images from the cancer ward. She thinks of men and women who are dying of cancer and she thinks, she believes that she *knows*, that more can be done to help those who are terminally ill escape the clutches of intractable pain during their last days, weeks or months of life.

Judith Quattlebaum is convinced that by legalizing heroin, by allowing physicians to use heroin to help ease the intense pain that so frequently accompanies terminal cancer, the United States would take a major step forward in providing compassionate care for its terminally ill.

Who is Judith Quattlebaum and does anyone in the country support her in her efforts to legalize heroin for use with terminal cancer patients?

Ms. Quattlebaum is the president and executive director of the National Committee on the Treatment of Intractable Pain. She organized the committee in 1978 and since that time she has haunted the halls of Congress to find a legislator who would propose a heroin legalization bill and, since completing that part of her task, has spent a good deal of time beating the bushes around the country to find individuals who would support such a bill.

Although admittedly there is still no national movement to make therapeutic heroin legally available, Ms. Quattlebaum has made significant progress in generating a dialogue about the wisdom of such a step.

William F. Buckley, the noted conservative columnist, was one of the first national figures to speak out in support of Ms. Quattlebaum's mission. In 1978 Buckley first spoke out in support of legal heroin and last year he saluted Quattlebaum's vigil in the Washington *Star*: "The purpose of these paragraphs is to celebrate the lonely work of Judith Quattlebaum. She is engaged in the grisly work of contemplating the terrible pain that accompanies some deaths by cancer, and attempting to bring a little relief from that pain to the hopeless."

Slowly more journalists and physicians began hearing about Judith

Ms. Judith Quattlebaum

Quattlebaum's efforts and some chose to lend her their public support.

But why *do* these people want to make heroin legal? Don't we have enought legal pain killers? Doesn't the availability of morphine make it unecessary to legalize heroin? Does the Committee on the Treatment of Intractable Pain claim that heroin is a better pain killer than morphine and is there any scientific support for that claim?

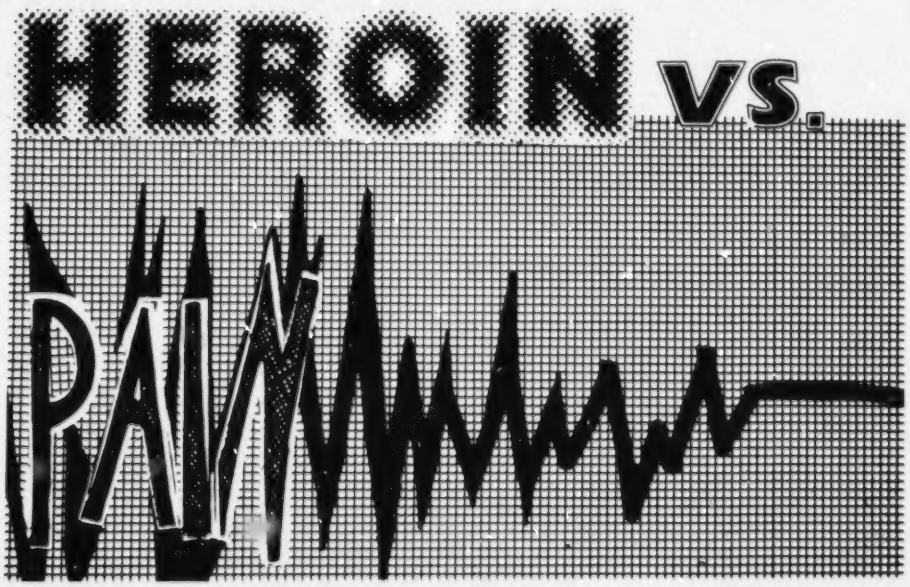
In a nut shell, the supporters of legal heroin claim that while heroin and morphine may be more or less equally effective pain killers when administered orally, heroin has distinct advantages over morphine when the drugs are administered by injection.

Specifically, claim the supporters, heroin is more soluble in water and its effects begin more rapidly.

The solubility claim is especially significant with regard to terminal cancer patients. First, many of these patients are constantly nauseous and cannot keep oral medications in their stomachs. Second, some are so emaciated that their bodies cannot hold injections that contain large volumes of liquid. The fluid simply leaks out onto the bed sheets.

While the United States has not permitted the legal manufacture of heroin since 1924, more than thirty

(Continued on page 22)



8

calendar

September 23-25

Librarians and Information Specialists in Addictions Meeting. Halifax, Nova Scotia. Contact: Eleanor Cardoza, Nova Scotia Commission on Drug Dependency, 5668 South Street, Halifax, Nova Scotia B3J 1A6. (902) 424-4270.

September 25-October 3

Alcoholism: The World Conference. London, England. Contact: Charter Medical Corporation, Addictive Disease Division, 5780 Peachtree Dunwoody Road, NE, Suite 170, Atlanta, GA 30342.

September 27-29

Control Issues in Alcohol Abuse Prevention: Local, State and National Designs for the 80s. Contact: William J. McCord, (803) 758-2521.

October 4-8

Fourth Biennial Canadian Conference on Employee Assistance Programming and Alcohol and Addiction Problems in the Workplace. Ottawa, Ontario. Contact: Input '81 Headquarters, Humber College, 205 Humber College Blvd., Rexdale, Ontario M9W 5L7, (416) 675-7420.

November 17-22

International Conference on the Treatment of Addictive Behaviors. Grand Canyon, Arizona. Contact: Conference Registrar, Bureau of Conferences and Institutes, 805 Yale NE, Albuquerque, NM 87131.

November 17-20

Tenth Annual Meeting, Association of Labor-Management Administrators and Consultants in Alcoholism. Contact: ALMACA, 1800 N. Kent Street #907, Arlington VA 22209, (703) 522-6272.

December 2-6

Sixth Southeastern Conference on Alcohol and Drug Abuse. Marriott Hotel, Atlanta, GA. Fee $250 ($300 after Oct. 15). Contact: Pat Fields, Registrar, (404) 257-9333.

HEROIN

(continued from page 17)

other nations use heroin as a legal pain reliever on a regular basis.

When Judith Quattlebaum's call for such use in the United States was first considered by the federal government early last year, the legal use of heroin as a pain killer in England was suddenly used to support the positions of both opponents and supporters of legal heroin.

The government asked Dr. Seymour Perry of the National Institute of Health's Interagency Committee on New Therapies in Pain and Discomfort and Dr. Diane Fink of the National Cancer Institute for their opinions in the dispute.

"When injections are necessary, heroin is undoubtedly the best and safest of all the potent narcotic analgesics..."

Both Drs. Perry and Fink advised against the legalization of heroin. In so doing they both referred to the work of Dr. Robert G. Twycross and London's St. Christopher's Hospice. Both doctors argued (Dr. Perry in a letter to William F. Buckley and Dr. Fink in a letter to Congressman G. William Whitehurst) that, "(St. Christopher's Hospice), the pioneer in the care of the terminally ill, has abandoned the use of heroin in favor of morphine, the most commonly used drug for severe pain in this country."

Whether this misrepresentation of fact was intentional or accidental, it is clear from a letter dated June 17, 1980, that the information being disseminated by Drs. Perry and Fink was not accurate. The letter, addressed to Mrs. James H. Parker, a member of the National Committee on the Treatment of Intractable Pain's advisory council, and written by a staff member of St. Christopher's Hospice, stated, "I enclose a copy of our current drug sheet and should make it clear that we have given up using heroin orally, but do give it by injection when patients can no longer use oral drugs. The reason for this is that heroin is more soluble and therefore can be given in a smaller volume of water."

Judith Quattlebaum knew that Dr. Robert G. Twycross would not have advised St. Christopher's Hospice to abandon its use of heroin. In June of 1978 Dr. Twycross visited Washington as a guest of Mrs. Quattlebaum's committee and, in an address to the committee members, he stated, "When given intravenously, heroin has an earlier onset of action, is more sedative, and causes less vomiting than morphine. These are all properties which are desirable when seeking to relieve severe, acute pain. When injections are necessary, heroin is undoubtedly the best and safest of all the potent narcotic analgesics and is indispensable in the care of a proportion of patients with advanced cancer."

"I see heroin as a means that would make it possible for human beings in the last days of their lives to be freed from pain, so that...they would have moments to reflect on great spiritual and human values."

On May 13, 1980, Rep. Edward Madigan (R-Illinois) introduced legislation in the United States House of Representatives that would authorize the use of heroin for terminally ill cancer patients.

On September 4, 1980, the House Subcommittee on Health and the Environment held hearings on Congressman Madigan's bill. Judith Quattlebaum testified at the hearings in support of the legislation but she did not testify alone. Joining her in support of the bill were the likes of Dr. Peter Sternlieb, past president of the New York State Society of Internal Medicine and Dr. Herbert Berger, the founder of the New York State Society of Internal Medicine.

"I honestly see heroin as a gift of God which his children—the "least brethren" (those suffering from terminal cancer)—have been deprived of too long."

The Reverend John F. X. Sheehan, Professor of Theology at Marquette University, was unable to attend the hearings but in a letter to the subcommittee stated, "I see heroin as a means that would make it possible for human beings in the last days of their lives to be freed from pain, so that occassionally during those days, they would have moments to reflect on the great spiritual and human values. I honestly see heroin as a gift of God which his children — the "least brethren" (those suffering from terminal cancer) — have been deprived of too long."

During the hearings the legislation was opposed by Gene Haislip of the Drug Enforcement Administration who stated, "Our position with regard to this piece of legislation is that it is not desirable at this time and we oppose it. My suspicion would be — and I think that it is supported by the facts — that heroin would pose more severe problems than usual and that indeed we would be hard pressed to control its distribution."

Mr. Haislip did go on to say that, "if the factual determination is made by scientists based on the facts, that heroin possesses a unique benefit that is not satisfied by other drugs to relieve some segment of suffering people, that it would be incumbent upon us to try to find the means to control its distribution so that those benefits could be enjoyed."

On May 1, 1981, Congressman Madigan co-sponsored House bill 3209 along with eleven other House colleagues. H.R. 3209 would allow cancer specialists to prescribe heroin for terminal cancer patients who were being cared for in a hospital or hospice. To date no senator has seen fit to introduce the necessary companion legislation in the U.S. Senate.

Earlier this year researchers at Georgetown University found heroin to be two and a half times as potent as morphine in relieving pain.

Finally, on June 9th the House of Delegates of the American Medical Association which, in June of 1977, adopted a resolution in opposition to making therapeutic heroin legally available, adopted a resolution stating that it endorsed "the principle that the management of pain relief in terminal cancer patients should be a medical decision and should take priority over concerns about drug dependence."

Heroin. It's *caused* enough pain. Maybe it's time to put it to work to relieve some.

NEWS

Bad Press Stops "China White"

By HARRY TURNER
DSN Washington Bureau

WASHINGTON — Federal officials believe that a "bad press" has stopped use by addicts of a new synthetic drug that is 80 times more powerful than heroin.

At least the officials hope so. Before newspaper accounts and word-of-mouth warnings circulated in the addict community, the drug, a variation of a little-used commercial analgesic called fentanyl, had been responsible for a dozen overdose deaths.

"We think its use has been nipped in the bud," said Joe Flanders, a spokesman for the Drug Enforcement Administration in Los Angeles. "If so, we've narrowly avoided something that could have been disastrous."

The overdose deaths first began cropping up in the summer of 1980 in Southern California. Law enforcement officials at first didn't suspect their cause, but laboratory analysis of a white powder found on many of the victims showed that there was a new and extremely dangerous drug on the market.

Because of the impurities found in the drug, DEA officials believe it was being manufactured illegally in a small laboratory, possibly in the San Diego area. They note that an unscrupulous chemist could fabricate the substance if he had access to the proper literature.

On the street, the drug was passed off as "China White," a particularly pure and potent form of heroin eminating from Burma, Thailand and Laos, and it sold for about $700 per gram.

"The buyers thought they were getting Southeast Asian heroin," said DEA's Flanders. "But what they got once they stuck a needle in their arm was something else."

The drug's deadliness lies in its potency and the difficulty of "cutting," or adulterating it, with a filler such as lactose.

A chemist at the DEA laboratory in McLean, Va., noted that the drug is "very, very toxic. Apparently when it's injected there's a beginning ephoria, but then it acts on the body much like strychnine. Death comes from asphyxiation."

The overdose deaths were reported in Orange, Riverside, Monterey and San Diego counties in California and one in Phoenix, Ariz.

Indicative of the power of China White is the fact that many of the victims were found with the hypodermic needle still in their arms.

During the peak of the overdose deaths last year DEA officials were concerned that use of China White would spread throughout the country, since California has always been sort of a proving ground for new, illegal drugs.

This apparently hasn't happened, and Flanders attributed it to "the news getting around on just how dangerous this stuff is."

Law enforcement officials still haven't found the illicit laboratory or those responsible for manufacturing China White, but, according to Flanders, "We're still looking for it."

Although the threat of China White may have been averted, killed by its own deadliness, law enforcement officials know that other new drugs produced by illicit laboratories will continue to crop up on the street.

Said one: "China White could have been a bonanza if it hadn't been so powerful. But these people (the drug makers) don't stop. There's too much money to be made."

Speedballing: Riding the Wild Seesaw

by Donna Rankin

John Belushi's recent death from an overdose of heroin and cocaine has focused national attention on use of the drugs in combination, a practice known on the street as "speedballing." And although the term sounds as though it could have been coined in a Saturday Night Live skit involving the Samurai warrior and the L.A. freeway, speedballing is *not* a recent development, and the only traffic involved is in acquiring the ingredients.

According to most observers, while speedballing has been around, in one form or another, as long as heroin and cocaine have been available, and while the use of heroin to soften the come-down from an extended coke binge (and vice-versa) has a long history in the annals of drug abuse, the simultaneous use of the drugs has achieved prominence only during the last two decades.

William Burroughs introduced the combination to the world of literature in his 1959 classic, *Naked Lunch*, a work which included graphic descriptions of speedballers mixing the drugs and injecting the speedball solution at one-minute intervals throughout the night.

But despite these auspicious literary beginnings, speedballing did not achieve great popularity until the middle and late-60s.

According to Phil Riccio, director of the Phoenix-based drug crisis center, Terros, speedballing is often described by users as a "rollercoaster" high, with cocaine producing an initial charge of stimulation that fades into a dreamy, narcotic high.

"Cocaine kicks off the trip . . . while the heroin mellows the harsh effects of coming down from the coke."

"The combination of the two is really sought after," Riccio told **Drug Survival News**. "Cocaine is much less drastic in effect (than heroin), but acting in the body like amphetamine, it causes a brief thrill, a rush of stimulation. (And) even though the coke wears off quickly, people look for that combination and rush. They feel that rocking and rolling . . ."

Other experts, including Dr. Sidney Cohen, professor of psychiatry at University of California's Neuropsychiatric Institute in Los Angeles, stress the complementary effects of the blend. "The combination tends to produce a smoother ride," Cohen told **DSN** in a recent interview, explaining that while cocaine reduces the sedating effects of the narcotic, "heroin eases the hyperstimulation and tends to moderate the wired-up, intense feeling that people (experience)" from cocaine.

John Belushi 1949-1982

Dr. David E. Smith, founder and director of the Haight-Ashbury Medical Clinic in San Francisco, echoes Cohen's description of the combination's effects.

"Cocaine kicks off the trip with an intense rush, while the heroin mellows the harsh effects of coming down from the coke," Smith stated, adding that proportions of the mix vary according to user preference, with larger amounts of cocaine used by those seeking greater stimulation, and larger amounts of heroin favored by those seeking a more euphoric, narcotic-like high.

Riccio feels that drug purity, as well as user preference, affects the ratio of cocaine-to-heroin blended in the speedball solution. "If you mix disproportionately with heroin, you just feel junked-down," Riccio said, "but it depends on what's happening with the cocaine, how pure it is. If the coke is cut with other adulterants and additives, . . . it can cause nervousness, anxiety, rather than a clean 'up'."

But according to Smith, the most important factor in establishing proportions of the mixture is simply access to the ingredients. "The bottom line in proportional mix," Smith concludes, "is usually determined by drug availability."

The scientific literature on speedballing is limited, but intriguing. A particularly interesting example of speedball-related research is that of R. D. Pickett, which points up the awesome unpredictability of the combination and suggests that the wide range of effects produced by the drugs is a function of a poorly-understood synergism between heroin and cocaine.

The results of Pickett's 1970 study were, in many ways, paradoxical. He found that while a small amount of cocaine mixed with a larger amount of heroin *reduces* the depressant effects of heroin, equal amounts of the two drugs *potentiate* heroin's depressant effects, making a 50-50 heroin-cocaine mixture more powerful—and more lethal—than an equivalent amount of heroin by itself.

And although little additional research has been carried out in the years since, significant dangers are associated with the drugs in combination—partly a result of the ability of one drug to mask effects of the other.

Smith believes that the masking effects of heroin in the combination leave the user vulnerable to a number of serious risks tied to cocaine, including stimulant psychosis and cocaine toxicity. "Heroin allows one to use a much greater amount of cocaine than normal," Smith said. "The toxic consequences can be fatal."

Cohen attributes a number of additional dangers to use of the speedball combination, including potentially fatal respiratory impairment. "You think you're taking the antidote for the other drug (when injecting the two together)," Cohen said, "but it doesn't work that way. Both drugs will reduce respiratory activity and can produce apnea, a temporary lapse of breathing . . ."

Though cocaine, unlike heroin, does not cause physical addiction, the drug does produce strong psychological dependence, and Cohen believes the possibility for developing dependence may be exacerbated by use of the drug in combination with heroin. "It's such a high, a euphoric state, that it produces great compulsion to use," he explained. "I don't know that physical addiction would increase, but it seems that psychological (dependence) definitely could."

While speedballing itself is not all that new, something that *is* new about the combination is its use by middle-class and celebrity users. "It's all part of the upper-downer cycle that has been with us for decades," Smith says, "but the population using it is what's new. Middle-class speedballing is a fairly recent phenomenon."

Belushi's death is one indication of this shift in user populations, and although the Los Angeles County Coroner's Office declined to comment directly on the circumstances surrounding the death, its official report identified the cause as "an overdose due to intravenous injections of heroin and cocaine."

According to the report, Belushi had numerous fresh needle marks on both arms. Toxicological analysis disclosed the presence of cocaine, morphine, and other drugs in Belushi's body.

While a small amount of cocaine reduces the depressant effects of heroin, equal amounts of the two drugs potentiate heroin's effects . . .

Because of the absence of hard information about the circumstances surrounding Belushi's death, it is unknown whether or not the comic actor was using the drugs simultaneously or had simply used both over the course of the evening. But one thing about the circumstances of Belushi's death is clear, that our favorite not-ready-for-prime-time player left us unprepared for another prime-time drug death.

ANALYSIS

May-June, 1982 analysis data were compiled from PharmChem Labs, Menlo Park, Calif.; Free Medical Clinic of Greater Cleveland, Cleveland, Ohio; United Health Services, Dayton, Ohio; Street Pharmacologist, Miami, Fla.; Minneapolis Health Department, Minneapolis, Minn.; and College of Pharmacy, Washington State University, Pullman, Wash.

by Christina Dye

Street Hustlin': The Heroin Hustle

Recreational drug roulette is one of the oldest—and deadliest—street games around and for a good many players, chemical deception and adulteration can pose more immediate dangers than the alleged drugs themselves. Heroin users are particularly vulnerable to the hazards of the street, frequently facing a stacked deck of heavily adulterated, relatively scarce narcotics of unknown potency for which they have both a strong psychological craving and physical need.

The precarious position of heroin users today is illustrated by such indicators of abuse as admissions to federal drug treatment programs and hospital emergency room records. Although the American addict population has stabilized at roughly 450,000 over the past three years, according to these indicators heroin-related injuries and deaths have jumped sharply since 1979.

In 1980, heroin was the second most frequently reported drug in hospital emergency room admissions (second only to Valium®), and heroin-related deaths rose over the 800-per-year level for the first time since 1976. These figures are particularly surprising as estimates by the U.S. Drug Enforcement Administration place the current average potency of street heroin at only about 5 percent.

Street drug analysis data provides other insights into the American junk scene, but even analysis has limitations. Studies have found that narcotics users (as well as users of other "desensitizing" drugs such as PCP and barbiturates) are less likely, for whatever reasons, to submit samples to labs for analysis. Additionally, independent labs, such as those contributing to *"Street Hustlin,"* are prohibited by law from publishing quantitative results (or proportional content breakdowns) of their tests. Thus, estimates of heroin purity are derived, for the most part, from federal seizures of incoming or circulating smack and may not reflect actual potency of the drug in the hands of the ultimate consumer.

What street drug analysis data *does* reveal is that use of heroin and other opiate derivatives can be very dangerous, indeed, but often for reasons entirely unrelated to the effects of the narcotics themselves.

Drug adulteration is a principal cause of physical injury (such as local tissue damage) and deaths associated with street heroin use, particularly given the favored route of administration—injection—among most users.

Among those additives most frequently seen today are sugars (such as lactose and glucose), cold and allergy medications (aspirin, phenacetin, and acetaminophen), and an assortment of miscellaneous psychoactives including caffeine, cocaine, methaqualone, phenobarbital, and milder opiate alkaloids (morphine, codeine). Quinine cuts, notorious among users for their ability to produce severe tissue damage, a dramatic reduction in blood pressure, and a range of toxic reactions at fairly low dosages, still surface in tested samples. Cleveland's Free Medical Clinic recently reported one heroin sample found to contain a mixture of heroin, quinine, and dextrose.

Overall, alleged heroin samples found to contain at least trace amounts of the drug have maintained an average 70 percent validity rate over the past two years, down from a 1978 peak of 81 percent. However, less than 10 percent of confirmed heroin submissions contained only the opiate derivative, with the vast majority assayed as blends of heroin and various bulking agents.

Drug substitution further tilts the odds against street heroin users. Perhaps the best-known example is the "China White"/fentanyl ploy which was linked to at least a dozen overdose deaths in 1980. "China White," a form of heroin produced in the Golden Triangle of Burma, Laos, and Thailand, has long been favored among users as one of the poppy's most pure, potent, and desirable derivatives. Alleged "China White" circulating on the West Coast in the summer and fall of 1980 was found to contain a synthetic sedative-analgesic, fentanyl (currently marked as Sublimaze®). Fentanyl is considered to be 80 times more powerful than morphine and can trigger sudden, often lethal, overdose.

Street drug roulette is a gamble in every sense of the word, and particularly for those for whom winning is not a payoff, but merely one more day of breaking even...

Though drug adulteration and misrepresentation are ever-present threats in the chemical casino, narcotics users also face a hazard of an entirely different nature: dangerously pure and potent heroin. May-June test results include one sample of smack considered stronger than average despite a lactose cut.

For many users, the gamble of a street supply isn't worth the wager in terms of health and safety, and a number of narcotic derivatives and pharmaceutical combinations have become popular replacements for low potency, relatively unavailable heroin. Such opiate-based pain-killers as Dilaudid®, Demerol®, (meperidine), and Percodan® (oxycodone) are increasingly a pharmacological feature of analysis data. Methadone, a synthetic narcotic widely and legally employed to wean addicts from heroin, has also appeared with greater frequency in test results over the past year or so. Diverted from legal sources of supply, methadone helps ward off the cramps and chills of withdrawal during street heroin droughts.

Combinations of pharmaceutical drugs that produce an euphoric effect similar to medium grade junk have become more commonplace as street supplies and purity dwindle. "T's and blues," an injectable blend of the analgesic, Talwin®, and the decongestant, Pyribenzamine (PBZ), and "loads" or "four-doors," an oral combination of codeine and the sedative-hypnotic Doriden®, are probably the most well-known heroin substitutes on the streets today. Yet, in many ways, these mixtures can be more dangerous—and deadly—than the drug they replace, with high potential for dependency and overdose and a range of immediate and severe health consequences.

All of which tends to reinforce the ancient notion that street drug roulette is a gamble in every sense of the word, particularly so for those for whom winning is not a payoff but merely one more day of breaking even. And given the tendency of illicit drug merchants to stack the deck in favor of profits rather than people, the continuing trend may well be one of increasing unpredictability—and heightened risks—in the form of both potentially hazardous heroin adulterants and demonstrably dangerous heroin substitutes.

And you can probably bet on it.

Street Drug Analysis All U.S.A. May-June 1982

Actual Contents (Main Ingredients) / Alleged Contents

Alleged Contents	Amphetamine	Methamphetamine	Caffeine	Caffeine & Ephedrine	Ephedrine	PPA, Caff. & Eph. Combo	Cocaine	Cocaine & Inositol	Cocaine & Lidocaine	Cocaine & Mannitol	Cocaine & Sugars	Cocaine & Misc. Additives	Additives Only	Asthma Meds & Antihistamine	Barbiturate	Methaqualone	Misc. Tranquilizers	Diazepam (Valium)	Heroin	Heroin & Adulterants	LSD	Opiates/Synthetics	Positive THC	Phencyclidine (PCP)	MDA/MOM	Mescaline	Psilocybin	Cold & Allergy Meds	Concussive & Nerve Meds	Toulene	Unidentified	No Drug	Totals
Amphetamine	9	1	2	2	3	18																										3	38
Methamphetamine (Crystal)	1	8			3								2																				14
Speed/Uppers/Crank	3	11		2	1	31							1															1				2	52
Cocaine		1					114	21	11	25	3	128	8									1										1	311
Diet Pills					1	4																										1	6
Downers																		2	2									1			2	3	10
Quaalude													1	1	1	19		10										6					38
Barbiturate															3																		3
Heroin																				1													1
LSD/Acid																					37											1	28
Marijuana/Hashish													4									1	18								1		24
PCP/Angel Dust																				1				4								1	6
THC																																	
MDA/MOM																									11							2	13
Mescaline																					1												1
Psilocybin																					1												1
Arthritis Meds																																	
Asthma Meds																																	
Opium																															1		1
Opiates (Demerol, Dilaudid, Morphine, Methadone)																						18						1				2	21
Miscellaneous					1	1																			1			2			1	3	9
Unknown		6	2		3		7		1	1	4	5	12	12	1		2	5		1	3	4	9					15	13	1	8	29	158
Totals	12	27	4	4	12	68	121	21	12	26	7	131	28	13	5	19	4	17		2	33	24	27	4	12			23	16	1	13	48	735

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11. *The Heroin Trail.* Staff and Editors of *Newsday.* New York: New American Library, 1973.

12. Kaplan, John. *The Hardest Drug.* Chicago: University of Chicago Press, 1983.

13. Latimer, Dean and Jeff Goldberg. *Flowers in the Blood: The Story of Opium.* New York: Franklin Watts, 1981.

14. Schecter, Arnold, Harold Alksne, and Edward Kaufman, eds. *Drug Abuse: Modern Trends, Issues, and Perspectives.* Proceedings of the Second National Drug Abuse Conference, Inc. New Orleans, La., 1975. New York: Marcel Dekker, Inc., 1978.

15. Scott, J.M. *The White Poppy: A History of Opium.* New York: Funk and Wagnalls, 1969.

16. Smith, David E. and George R. Gay. *It's So Good, Don't Even Try It Once: Heroin in Perspective.* Englewood Cliffs, N.J.: Prentice-Hall, 1972.

17. Trebach, Arnold S. *The Heroin Solution.* New Haven, Conn.: Yale University Press, 1982.

ARTICLES:

1. Drug Enforcement Administration, National Narcotics Intelligence Consumers Committee; *The Supply of Drugs to the U.S. Illicit Market from Foreign and Domestic Sources in 1981;* Washington, D.C.: Government Printing Office, 1983.

   Results: 4.4 tons illegally imported in 1981; 492,000 estimated U.S. heroin users; stabilized availability in 1981, with Southwest Asian heroin most prevalent in Midwest and East and Mexican heroin in the West; heroin-related deaths rise for third year while treatment admissions continued to decline.

2. "The Epidemiology of Heroin;" *Scientific American;* 232(2) Feb. 1975; p. 41.

   Review of U.S. Centers for Disease Control study of major heroin use outbreaks between 1968 and 1970, noting that while "drug pushers" are widely considered the primary means of spreading heroin use, drug-using peers contributed most significantly to spread and that, in most instances, the initiator was himself a new user of heroin.

3. Haden-Guest, Anthony; "The Young, the Rich, and Heroin;" *Rolling Stone;* 399, July 7, 1983; p. 20-26.

   Narrative account of heroin as the latest drug fashion among young upper- and middle-class adults in the U.S. and Europe. Author suggests heroin is the natural "hard drug for hard times," reflecting the crushed ambitions and despair of the 1980s after the egoism and expectations of the 1970s.

4. Huber, Douglas H., M.D.; "Heroin Deaths—Mystery or Overdose?" *Journal of the American Medical Association;* 229(6) Aug. 5, 1974; p. 689-690.

   Letter to the editor reviewing controversy over the cause of heroin deaths, including "overdose" related to increased purity or user inexperience, idiosyncratic reactions, heroin contaminants, or poly-depressant use. Author argues that most heroin deaths appear related to heightened drug potency and simultaneous alcohol use.

5. Jain, Naresh C., Robert Budd, Blythe Olson, and Thomas Sneath; "Patterns of Drug Use Among Methadone Maintenance Patients in Los Angeles County;" *Bulletin on Narcotics;* 29(2) April-June 1977; p. 45-53.

   Assessment of predisposition toward continued drug use by urinalysis of 730 methadone patients. Researchers found over 23 percent of samples positive for drugs other than methadone in the two-year survey and 80 percent of these were illicitly used drugs, including barbiturates, amphetamines, and opiates. 14 references.

6. Judson, Barbara and Avram Goldstein; "Prediction of Long-term Outcome for Heroin Addicts Admitted to a Methadone Maintenance Program;" *Drug and Alcohol Dependence;* 10(4) Dec. 1982; p. 383-391.

   An attempt to isolate variables impacting on relapse rates in 171 methadone maintenance subjects. Authors concluded that of 19 variables considered, none provided basis for *a priori* judgment about five-year outcome. Highest correlations for unfavorable outcome were: greater involvement with criminal justice before treatment, continued daily heroin use or living with an addict during treatment, or minority ethnicity. 21 references.

7. Lewis, Peter; "Legal Heroin in Holland?" *Macleans;* 96(28) July 11, 1983; p. 35.

   News account of Amsterdam, Holland, city council attempt to combat rising drug addiction and drug-related crime by dispensing free heroin. Scheme would provide 200 citizen-addicts with medically-supervised heroin supplies; opponents charge the supplies would feed a government-supported black market.

8. Maddux, J.F. and D.P. Desmond; "New Light on the Maturing Out Hypothesis in Opiod Dependence;" *Bulletin on Narcotics;* 32(1) 1980; p. 15-25.

   Review of long-term follow-up studies of heroin users with periods of prolonged abstinence. Authors concluded that the "maturing out" concept is limited: while instances of abstinence rise with age, a range of motives are involved and three or more years of non-use does not ensure lifetime abstinence. 21 references.

9. Perry, David C.; "Heroin and Cocaine Adulteration;" *PharmChem Newsletter;* 3(2) 1974.

Review of anonymously submitted drug samples tested for a range of adulterants. Author discusses dangers of non-drug cuts (flour, talc, etc.) producing blood clots, pulmonary and nerve damage, and tissue death, and drug substitution, including procaine and quinine, and their toxic side effects.

10. Powell, Douglas H., Ed.D.; "A Pilot Study of Occasional Heroin Users;" *Archives of General Psychiatry;* 28(4) April 1973; p. 586-594.

Interview-based study of 12 middle-class young adults who occasionally used heroin. Tests showed subjects to be of above average intelligence, highly anxious, with less than average scores on socialization, maturity, and responsibility. Subjects used heroin for self-medication, facilitating emotional expression, and enhancing sense of competence. All despised addicts and the drug culture as "losers," and did not see a serious possibility of eventual addiction with occasional use. Author concludes that environment of using and friends may militate against addiction.

11. Preble, Edward and John J. Casey, Jr.; "Taking Care of Business: The Heroin User's Life on the Street;" *International Journal of the Addictions;* 4(1) March 1969; p. 1-24.

Intriguing examination of street life among poor, minority users as a "career" of busy, purposeful relationships and activities centering on procuring heroin. Authors argue that "taking care of biz" is a meaningful activity which lends purpose, challenge, and gratification to life, rather than an escape from life. Includes description of economics of heroin, from importation to street sales.

12. Proctor, Mac; "The Habit;" *International Journal of the Addictions;* 6(1) March 1971; p. 5-18.

Interview-based examination of the culture of heroin addiction and the nature of the habit, including self-image, social stratification, and the socio-economic dynamics of possessing and using heroin.

13. Redlinger, Lawrence John, Ph.D.; "Marketing and Distributing Heroin;" *Journal of Psychedelic Drugs* (now *Journal of Psychoactive Drugs*); 7(4) Oct.-Dec. 1975; p. 341-353.

Analysis of commercial and economic principles shaping illegal wholesale and retail distribution of heroin, including quality standardization, packaging, "staff" recruitment, and consumer-provider relationships. Author asserts that illegal markets operate on similar dynamics and principles as legal trade: as "networks of collective activity centered around successfully moving a product."

14. Robins, Lee N., Ph.D.; *The Vietnam Drug User Returns;* Final Report of the Special Action Office for Drug Abuse Prevention; Monograph Series A, No. 2; Washington, D.C.: Government Printing Office, 1973.

Interview-based examination of trends and prevalence of heroin, opium, and other drug use among U.S. military personnel stationed in Vietnam, including overseas use patterns and drug use during post-service adjustment. Study notes that while only 11 percent admitted using narcotics before tour of duty, 43 percent used narcotics (33 percent opium, 34 percent heroin) while stationed in Vietnam.

15. Stimmel, Barry, M.D., and Karlis Adamsons, M.D., Ph.D.; "Narcotic Dependency in Pregnancy: Methadone Maintenance Compared to Use of Street Drugs;" *Journal of the American Medical Association;* 235(11) March 15, 1976; p. 1121-1124.

Comparison of pregnancy course and outcome in 28 supervised methadone patients and 57 less-supervised methadone and heroin users. While infant withdrawal was similar in both groups, the uncontrolled narcotic group demonstrated higher incidence of fetal distress, congenital defects, and neonatal death. Authors conclude that supervised methadone use produces greater chances for controlled withdrawal and infant survival. 18 references.

16. Stitzer, Maxine L., Roland R. Griffiths, A. Thomas McLellan, John Grabowski, and James W. Hawthorne; "Diazepam Use among Methadone Maintenance Patients: Patterns and Dosages;" *Drug and Alcohol Dependence;* 8(3) Nov. 1981; p. 189-199.

Results: 65-70 percent of methadone patients used Valium to boost effects derived from methadone. Doses: 69 percent consumed a single daily dose of 10-50 mg of Valium (within therapeutic range), while 31 percent used 70-300 mg of the drug. Authors concluded that prevalence, dosage patterns, and motives for use suggest Valium is widely used to enhance methadone effects. 17 references.